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# *The* JOURNAL *of* GEOGRAPHY

CONTENTS FOR DECEMBER, 1954


**Brazilian Capitals and Frontiers: Part I. By Robert S. Platt** .... 369

Dr. Robert S. Platt is professor of geography and chairman of the Department of Geography, University of Chicago. He has served both in the armed forces and in government offices such as the Office of the Geographer, United States Department of State. He is the author of many books and articles.

**TV's Explanation of Seasons: A Case Study. By Robert V. Esmond** 376

Mr. Robert V. Esmond is in the Regional Services Division of the Office of Public Relations, Northern Illinois State Teachers College, De Kalb, Illinois.

**Your Grade Experiments with Soils. By M. Melvina Svec** ..... 381

Miss M. Melvina Svec, president of the National Council of Geography Teachers, is well known for her service in many capacities in the NCGT and for her many practical articles published both in the JOURNAL and in other magazines.

**Recent Maps of Interest to Teachers of Geography: III. By Marie Cleckner Goodman** ..... 384

Mrs. Marie Cleckner Goodman has served as chairman of the Map Resources Committee, Special Libraries Association which recently compiled and published *Map Collections in the United States and Canada, a Directory*. She is now Head of the Map Acquisitions Section, Map Division, Library of Congress.

**A Quantitative Analysis of the Locational Factors in the Integrated and Semi-integrated Iron and Steel Industry of the United States and Canada. By Arthur H. Doerr** ..... 393

Dr. Arthur Doerr is a member of the Department of Geography, University of Oklahoma. One of his articles entitled "The Salt Industry of Southwestern Puerto Rico" appeared in the November, 1953 issue of the JOURNAL OF GEOGRAPHY.

**Televising Geography: Report No. II** ..... 402

**Report of the Fortieth Meeting of the National Council of Geography Teachers** ..... 409

**The National Council at Work. By M. Melvina Svec** ..... 411

**Geographical Publications** ..... 412



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VOLUME LIII DECEMBER 1954 NUMBER 9

# BRAZILIAN CAPITALS AND FRONTIERS: PART I*

ROBERT S. PLATT
University of Chicago

For some purposes it may be useful to study Brazil as if it were a solid block of territory to be taken for granted in form and size and viewed as a repository for generalized statistical data: a spot colored green on a world map and said to contain 3,000,000 square miles of land, 45,000,000 people, tropical climate, jungles, rubber and coffee.

For other purposes it is useful to study Brazil as composed of several different and distinct regions: the rainy forested north, the dry northeast, the tropical east, the temperate south and the grassy middle west—each region internally uniform in character and different from the others (Fig. 1).

In still another way, for the purpose of this discussion in political geography, it is useful to look at Brazil as an integrated unit of political organization, evolving historically and accordingly complex in form and structure. From this viewpoint the existence and character of the country are not to be taken for granted, as if predetermined by static conditions of nature, but are to be taken as a cumulative expression of concurrent human effort, thru a long sequence of events still continuing from the past into the future.

The outward form of Brazil has been stabilized and at present is not changing. The internal structure, including the main focus of political activity, is still unstabilized and subject to present and future changes.

The making of Brazil began with the Pope's Line of Demarcation, drawn to separate Portuguese from Spanish territorial interests. Both these maritime powers were headed for the Orient. Portugal's route was south and east around Africa, and so incidentally touched the eastern projection of South America; while Spain's

*Brazilian Capitals and Frontiers: Part II is scheduled for Publication in the January, 1955 issue.

route was westward via the West Indies and so reached the northern and western shores of South America.

But the Line of Demarcation was only a beginning and did not continue to form the western boundary of incipient Brazil. Portuguese enterprise spread southward along the east coast of South America finding a succession of sheltering harbors and inviting hinterlands. Portuguese seamen also sailed northwestward and

FIG. 1. Regions of Brazil as officially established for federal government purposes. (Conselho Nacional de Geografia: "Divisão Regional do Brazil," Rio de Janeiro, 1945.)

westward via the unbroken Amazon waterway. Finally Portuguese landsmen penetrated the interior far and wide, and westward almost to the Andes (Fig. 2).

Thus the Line of Demarcation was passed, and the Portuguese met their Spanish neighbors much farther west, where the Spaniards were moving eastward across the Andes, down-stream in the headwaters of the Amazon, along the Paraguay and Paraná Rivers and the Rio de la Plata in the southwest and along the Orinoco River in the north.

Thus the boundaries of Brazil came into existence where rival interests from opposite sides of the continent met and were stabilized. The winning of independence from Europe early in the 19th Century did not change these local relations. Final demarcation of

boundary lines by agreement was accomplished at the end of the 19th Century thru negotiations of Brazilian diplomats with those of neighboring countries. Thus Brazil was given its present form and size, with boundaries separating it from Venezuela and the Guiana Colonies along the northern watershed of the Amazon, from Colombia, Peru and Bolivia in the westward headwaters of the Amazon, and from Argentina and the Spanish border countries of Uruguay and Paraguay in the basin of the Rio de la Plata.

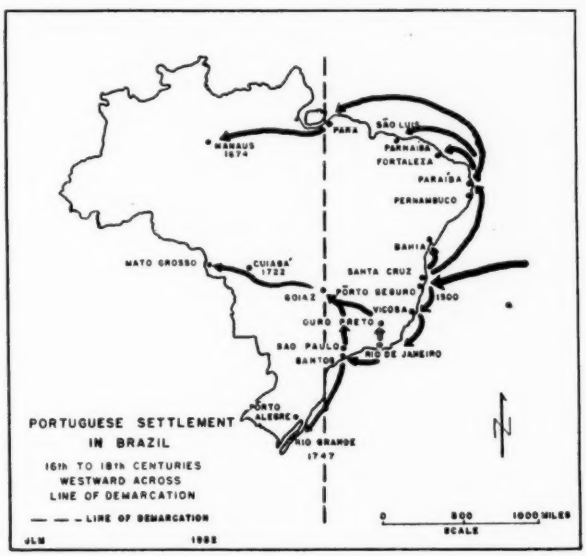


FIG. 2. The progress of Portuguese settlement along the coast and across the Line of Demarcation, westward up the Amazon, westward overland in the middle west and southwestward on the coast. (Data from R. Brandt: "Geografia Cultural do Brazil," Rio de Janeiro, 1945, pp. 67, 68.)

Within this body of territory a national structure has evolved and continues to develop and change. This structure is revealed in a pattern of organization not merely outlining the five separate regions into which Brazil has been academically divided, but forming a dynamic integrated unit with points of focus and lines and limits of movement.

The earliest primary focus, as already suggested, was on the eastern coast of the country. The first capital, after activities had begun to spread over the country, was the port of Salvador, Bahia (Fig. 2). Later, after major interests had developed farther south, in Rio de Janeiro, Minas Geraes and São Paulo, the capital was

moved southward to the port of Rio de Janeiro, close to the scene of new activity.

Here it has remained for two centuries, and Rio is still the focal center of the political structure of Brazil. Traffic maps show a convergence of lines on the Atlantic port capital. In Brazilian traffic flow, Rio receives more than half of the imports and of the immigrants from abroad, and also large proportions of the domestic coastwise and overland traffic.

Export shipments are less highly concentrated than imports, but Rio has a conspicuous place even in these, with 20 per cent of the foreign exports. As a center of air transport Rio handles about a third of Brazillian passenger traffic, and larger proportions of Brazilian air mail and air cargo.[1]

Rio is not the only place in Brazil—Rio harbor and Sugar Loaf not the one characteristic scene—but Rio is still the major metropolitan center in which national interests come to focus, the leading city in the number of banks, lawyers, periodical publications, museums, theaters; libraries, secondary schools and institutions of higher learning. On top of this is the official position of Rio as the capital of a centralized national government, with a major share of government land and buildings[2] (Fig. 3).

Analysis of the population of Rio indicates some of the characteristics of the city. About 5 per cent of the Brazilian population is in Rio, nearly 2,000,000. These include an insignificant share of farmers and workers in extractive industries; a fairly large share of people in manufacturing, transportation, commerce and social services (second to the industrial city of São Paulo); a larger share of professional people, and the largest concentration of government employees, more than a hundred thousand.

Rio contains about 2,000 units of Federal government organization, representing a full array of centralized national administrative and bureaucratic offices, headed by ministers, presidents, chairmen, commissioners, administrators, superintendents, secretaries, agents, delegates, councilors, directors, chiefs and subchiefs.[3] In

[1] Data from Ministerio da Viação e Obras Publicas, Depto. Nacional de Portos, Rios e Canais: Relatorio dos Serviços Executados em 1943. Rio de Janeiro, 1945.

[2] Quantitative statements in this and following paragraphs are calculated from figures given in Instituto Brasileiro de Geografia e Estatística: Anuário Estatístico do Brasil, VI (1941-1945), Rio de Janeiro, 1946.

[3] Depto. Administrativo do Serviço Público: Indicador da Organizacão Administrativa do Executivo Federal, Rio de Janeiro, 1945.

addition there are the legislative and judicial branches of government, and the embassies, legations and consulates of foreign nations, some of them, like the American Embassy, subdivided into numerous branches, each with a staff of workers.

Government is conspicuous in Rio, but the city contains much else. Government employees compose only 6 per cent of the city population, and manufacturing, commerce and transport employ three times as many people, 315,000.

FIG. 3. Dome of the old Senate and modern hotel and business buildings. View northwest from waterfront parkway, Rio de Janeiro, February 1947.

Rio has both assets and liabilities, both for government and for other purposes. The site is one of great beauty. The combination is probably unequalled in the world, considering the three elements, 1. of exotic rocky mountains and curving sea and harbor shores, 2. of luxuriant tropical vegetation and 3. of the lavish architecture of an imperial capital.

But the proximity of steep mountains to the water's edge is accompanied by limitations of space. The swampy lowlands between rocky slopes and irregular shores are narrow and broken. Most of the slopes are so steep and rocky that city streets, almost of necessity, stop abruptly at the base, and such slopes are occupied, if at

all, by *favelas,* the clustered shack slums of poor squatters. Congestion in the narrow lowlands is serious. The number of people per dwelling is higher than in any other Brazilian city. Even a magnificent suburb such as Copacabana Beach, now lined solidly by towering apartment buildings, gives an impression of urban crowding and attendant ills.

Traffic congestion appears immense, even in a period of traffic jams in most of the cities of the world. Rio has nearly half of the major municipal traffic of Brazil, in street cars, buses, railways and boats and has a large share of the autos of Brazil. Routes are long and circuitous in the narrow broken lowlands. The city has outgrown its transport facilities. Rio is the first city of Brazil in crime, first in conflagrations and first in violent and accidental deaths.

The climate of Rio is pleasant during three quarters of the year, with warm sun and gentle showers. But the summer is oppressively hot and humid. The business of government is then difficult and trying. The death rate in Rio is higher than in Brazilian cities of the temperate plateau and the south. Infectious, parasitic, circulatory and digestive diseases are prevalent.

Rio has outgrown not only its available space and its housing and transportation equipment, but also other city facilities. The water supply is inadequate and undependable. Adequate sources are available but the present system was installed long ago for a smaller city, and cannot be much improved except at enormous expense. Breakdown is frequent, and water is curtailed and sometimes shut off completely in some parts of the city. Rio has also required increasing amounts of food brought from ever greater distances by systems of transportation and exchange developed for a much smaller volume of traffic. Shortages are common.

So visitors from abroad are enchanted by the beauty of Rio. But Brazilians often are impressed by the accumulated disadvantages: the urban defects of congestion and outgrown facilities; and the political defects of bureaucracy, petty politics and the surviving remnants of self-centered imperialism.

In the 19th Century days of the Brazilian Empire, Rio was embellished and honored as the seat of empire and aristocracy. When the Republic succeeded the Empire in 1889 the ideal changed from that of an imperial capital to that of a democratic administrative center.

Soon after the establishment of the republic a proposal to move

the seat of government to a more suitable site was given consideration. A commitment to found a new capital was included in the constitution. A commission was appointed to choose the site. The task of selection was seriously undertaken and a monumental report was published[4] recommending a district in the watershed area

FIG. 4. Three major river basins. The São Francisco Basin is entirely in Brazil. The headwaters of the Paraná are in Brazil and lower parts in the neighboring countries to the southwest. The lower course of the Amazon is in Brazil and the western headwaters are in neighboring countries to the west. Between the mouths of these major rivers coastal areas of Brazil are drained by many smaller streams to the Atlantic.

separating the three great rivers of Brazil: the Amazon, the São Francisco, and the Paraná (Fig. 4).

The area selected by the Cruls' Commission in 1893 has been remembered and marked on maps from that day to this as the site of the "future capital" of Brazil.[5] But the area itself has hardly changed in 50 years, at least until very recently.

Editor's Note: The second part of this paper is scheduled to appear in the next issue.

[4] L. Cruls, Commissão Exploradora do Planalto Central do Brasil: Relatorio, Ministerio da Industria, Viação e Obras Publicas, Rio de Janeiro, 1894.

[5] J. P. Goode: Physical Wall Map of South America, Chicago, 1915 and later editions.

# TV'S EXPLANATION OF SEASONS: A CASE STUDY

ROBERT V. ESMOND
Northern Illinois State Teachers College, De Kalb

Ever teach an earth science class of 1,000,000 "pupils"? That was the potential "enrollment" for a 15-minute program presented recently by the Earth Sciences Department of Northern Illinois State Teachers College, De Kalb, and telecast to 25 counties in northern Illinois and southern Wisconsin.

In addition to the size of the potential audience for this earth science activity, this television venture by Northern's Earth Sciences staff warrants special consideration, for it represents the kind of TV situation now facing some and soon to face many of the wide range of educational and cultural groups which are unable to think in terms of operating television stations of their own.

At the invitation of WREX-TV, Channel 13, Rockford, Illinois, Northern undertook the preparation of a series of 15-minute programs, participating as the guest of that station in its public service programming. Development of TV programs was assigned the Regional Services Division of the college, under my direction.

Volunteer representatives from interested college departments (and this was nearly all departments) and administrative groups formed a faculty television committee to review TV program ideas and select those which would best meet the needs of the series.

Formal course presentation or anything similar could not be attempted, in view of the fact that the college programs would be short and presented only once every second week. A good public relations impression, thru the presentation of representative academic activities from the college, became the purpose of the series.

## PREPARATION

Voris King represented the Earth Sciences Department on the television committee. From the suggestions of that department an advisory group, composed of members of the faculty TV committee, chose King's suggested program on an explanation of seasons and recommended that idea to me for development.

King and I determined that the program must be eminently simple. Thirteen minutes for the presentation seemed incredibly short, and that's really all the time there was after allowing time

for opening and closing format announcements. The challenge lay in the demand which television makes for succinct presentation. And so it was with the Earth Science Department's program, as with all programs in the series: to know just how much to include, to say it, to show it and to stop.

To assist him with his television explanation of the seasons, King selected a junior and a sophomore from his classes. He explained to them briefly what their responsibilities would be and got them started preparing their program material.

Two weeks before the program date, I met with the group and watched them "talk thru" the program, checking on the time. Care-

FIG. 1. Voris King, center, of the Earth Science Department at Northern Illinois State Teachers College, looks on as one of his students, Mari Bullard, left, explains the inclination of the earth. Warren Kahle, right, the second student who took part in the Earth Science Department's TV program looks on and waits his turn.

ful advance planning on King's part plus his appreciation of the need for simplicity resulted in very good timing from the start.

With the initial rehearsal hour—first of four—behind us, King and I prepared an action outline, the framework around which the TV script would be built. This rough outline merely lists in one column the action; in an adjoining column, a one-sentence description of that action fills in necessary detail. With this outline in hand, I was able to visualize the program in terms of camera shots.

Final outline changes were made, and the rehearsals got under way in earnest, with our group catching an hour when it could. Final examinations were taking place at the same time.

The earth science group soon became aware of the fact that action had to be "canned," canned in the sense that it was pre-planned and followed thru to the letter. Action detail and word detail are not of major importance to the program producer. He hopes, frankly, that ideas will be well in hand but that exact wording will not. If it were, the spark of spontaneity would be snuffed by the stuffiness of rhetorical questions and memorized answers.

Yet, and this is the point to remember—much of the success of the program depends upon how well the group sticks to the actions it has pre-planned and put down in its outline script. Without this fidelity of movement, cameramen and producer cannot hope to get the most from the program. In safety, the producer will call his camermen back and "play the cameras wide," permitting a shot of the complete setup, albeit a less interesting one than originally planned. Closeup work, the dramatic punch of a TV program, becomes chaos if "actors" fail to follow thru with their actions.

King's group learned to be definite with its movements, to follow the predetermined outline faithfully, and, as an added safety factor, to offer helpful word cues on upcoming action.

A technical problem faced King's group. In order to show why we have seasons, it was necessary to have a "sun" of some sort. The sun's area of illumination on the globe could have been simulated with a cardboard or wooden device. Yet it was felt that a "sun," shining on the globe and vividly illuminating the demarcation between night and day would give the presentation much added force.

A bare bulb in the center of a table would throw an objectionable glare directly into the camera. A guided beam was needed. A photo flood bulb and shade were used and provided a "sun"

whose rays shone nicely on the globe and not into the camera. The only other equipment involved was the globe, mounted on a stand which could be rolled around a table, and a strip of tape on the globe. The tape was marked off in 15 sections to indicate hours, fastened at northern Illinois, and extended westward on the latitude for this area. With the aid of this tape, viewers could count the number of hours of daylight in this area during each season.

Program time was 6:45 P.M., Class A viewing time, so far as the telecaster is concerned. WREX, interested in developing as a community service station, took early steps to bring educational and civic groups from the area into its programming. The enlightened policy of that station calls for them to grant a portion of its best viewing time—Class A—to Northern and similar groups, demanding, in return, that its public service features be of high quality. Northern appreciates the confidence placed in it by the station—placing the college's "Four Good Years" series between a network newscast and a network sports program—and has demanded quality presentation from its program groups.

With campus rehearsals completed and the script in the hands of the station's program producer, all was ready. The earth science group left the campus in mid afternoon and arrived at the station —45 miles away—in time to "walk thru" the presentation with the director of production. During this skeletonized rehearsal, cameramen received instructions on angles, floormen were briefed on the setting and lighting was checked. The script called for the studio to darken as King turned on the "sun." Our rehearsals had been conducted on the supposition that lighting would not be a problem. It wasn't.

Waiting their turn before the cameras, King and his students had an opportunity to see several "live" shows presented. Week after week, this watching experience has proved of value to Northern's program groups, for it gives them opportunity to project themselves into the spirit of TV presentation, to dispell any "butterflies" (this may not happen until they're on camera), and to become aware of the work of the floormen and camermen, moving about taking their shots, throwing cues and giving time signals.

## PRESENTATION

"Four Good Years" uses a standard opening for each program. Superimposed on motion pictures of campus scenes is the title card.

In the background is *a cappella* singing by the college choir, a tape recording prepared by the Music Department well in advance of the first program. As the music fades, the credit card is supered, I read a standard introductory announcement, my camera becomes "hot" and the program is under way.

"... and here to open our program is Mr. Voris King of Northern's Earth Science Department," I conclude.

King greets his audience, introduces his student helpers—Mari Bullard and Warren Kahle—and begins by pointing out rotation and revolution as features of the earth. His presentation is informal, relaxed, the kind of living room-teaching approach which makes TV so effective for educational programs.

Mari shows how the earth is inclined 23½ degrees from the vertical, and Warren demonstrates and explains parallelism. As Warren walks the sun thru its orbital path (around the table), the camera moves with him, spotting his demonstration with close-up shots.

Briefly King explained the terms "solstice" and "equinox," making much of the tie-in with the vernal equinox three days earlier. As King explained the strip of tape on the globe, the magic eye of the TV camera picked up the Midwest and filled TV screens thruout the viewing area with one small portion of the demonstration globe no larger than a playing card.

As cameras cut back to the group, viewers saw King reach beneath the desk and bring forth the "sun." As he turned on the table lamp, studio lights were dimmed. Cameras dollied in to give the viewers a closer picture of night and day during the vernal equinox, as shown on the globe. Light reflected off the globe gave the globe an effective other-world atmosphere, with the viewer having the feeling that he was out in space watching these phenomena take place.

As the student helpers moved the globe 90 degrees around the table and King moved the light, he explained the summer solstice; then another 90 degrees and the autumnal equinox; then another 90 degrees the winter solstice; and then another 90 degrees and finally back at the starting position.

King's commentary was kept simple and informative, with many human interest aspects of the seasons interjected. As the "sun" went out, the studio lights went on, and King recapitulated briefly to close the program.

### RESPONSE

What has been the response to Northern's programs such as that put on by the Earth Science Department? An enthusiastic PTA member from the area somewhat indicates the general response to and acceptance of Northern's TV work. She wrote, in part:

"We have placed your programs on our recommended list. Our parent group enjoys them very much and we wish we could have such worthwhile programs more often."

Hours in the preparation of program materials, hours in the planning and rehearsal and the acceptance of a myriad of individual responsibilities produced the Earth Science Department's contribution to "Four Good Years." King and his students can testify that "such worth while programs" are not come by easily. To be successful and contain necessary qualities of effective simplicity and showmanship, an educational TV program demands and must have a great deal of advance planning.

The TV experience of Northern's Earth Science Department will not remain unique for long. As the so-called community or local television stations are established, other earth science groups across the nation will find television opportunities and challenges readily available to them. The imagination is fired by the unlimited opportunities for TV programs on earth science. The television invitations are on the way. Together they offer a vital challenge to earth science teachers everywhere.

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## YOUR GRADE EXPERIMENTS WITH SOILS

**M. MELVINA SVEC**
State University Teachers College,
Oswego, New York

Pupils in non-rural areas are often unaware that soils have many differences evident to the eye. Some of these differences can be discovered in the classroom. The following experiments depend upon simple tools and free materials at hand. Pupils can collect all materials and perform all parts of these tests. The value of such simple experiments is not only to see what is obvious but to further discover some soil differences and what they mean.

**Aims of study.** By collecting the soil samples and placing them on heavy paper in the classroom, pupils sharpen their power of observation. From the samples they see soils differ in color, texture, composition, and moisture. From the experiments they see the amount of water absorbed, amount of material carried off by water, the color of water drained from soils samples and later, the rate at which soils dry.

**Materials needed.** Several pupils offer to bring in a cup of *soil.* The variety might include: sand, clay, loess, garden soil, muck, gravel. Six different samples make a workable series. Empty fruit juice *cans* should have 10 or 12 holes punched in the bottom. Six baby food *glass jars* provide measuring cups for water. Six discarded *jelly glasses*—the tall tumbler type—and some *newspapers* complete the raw materials needed.

**The method.** A group of pupils takes charge of each one of the soil samples at the table. One pupil measures out the amount of soil for the can (it should be about three-fourths full). Both the amount of soil each group measures out and the number of holes in each soil can should be the same. The soil can is now placed in a jelly glass. Another pupil fills the baby food jar with water. When all is ready, a signal is given and a pupil in each group pours the water from the small jar into the soil can, slowly enough so none spills over the top and keeps adding water until all is poured into the soil.

**Observations.** All eyes watch intently for the first drop of water to pass thru the can of soil. Soon, someone calls out excitedly that the water is dripping and fast from the muck, or sand. This might be timed if pupil time-keepers have watches with a second hand. The order in which water drains thru the soils is recorded.

A summary of observations at this stage includes: 1. some soils drain faster than others; 2. some soils take much longer to absorb the same amount of water; 3. some of the drained water is colored as it filters thru soil; 4. some soil slips thru the holes in some cans; and 5. some soils pack down into the can when wet.

**Additional steps.** After water has filtered thru the soil, the pupils pour it back into the small jar to compare the amount drained off and compare different samples. A pupil may suggest that the water be poured into the soils again to see how much more might be absorbed a second time. Further comparisons and contrasts are made.

**Further procedures.** After the water has drained thru the soils and some may take so long that the class will resume other work and check back at intervals for developments, pupils empty the soil samples onto several thicknesses of newspapers.

The individual piles of soils show different degrees of wetness, dryness, compactness. Some soils retain the shape of the can, others are mushy and literally melt over the paper. These samples are checked daily to note the rate of drying and the texture as drying continues. Some are cloddy, lumpy, loose, or powdery. Later the dried out soils are replaced in the can which is labeled with the kind of soil and its source.

**Applications.** A question, "What difference does it make to us that soils behave these different ways?" brings forth many worthwhile statements. Some responses might be: In our garden carrots do not grow at all but we have good luck with lettuce. . . . Some soils drink water and others lose it. . . . Our yard is clayey and it holds water so it is muddy in rainy weather. . . . Some soils must be better for one crop than for another. . . . Let's plant seeds in different soils and see what happens. . . . By now, both pupils and teacher have thought of additional experiments such as checking temperatures of soils under different conditions.

**Recording data.** A chart can be devised by the pupils to record the data observed. This may be developed as the experiments proceed or the form set up before hand by a committee.

**Evaluation.** Pupils are interested in things at hand. On trips to the country and on vacation travels, some begin to watch with interest the differences in soils in fields, the crops grown and land uses. And most of all, they do like to report back to the teacher and class the new things and additional comments to add to the observations made at the time of the soil experiments.

# RECENT MAPS OF INTEREST TO TEACHERS OF GEOGRAPHY: III

MARIE CLECKNER GOODMAN
Library of Congress

This is the third of a series of articles on maps of special interest to teachers. The earlier articles appeared in the January 1952 and March 1953 issues of the JOURNAL. All the maps reviewed are readily available to teachers. A number are published by the United States Government and may be purchased very reasonably. The foreign-made maps may be ordered directly from the publishers or thru map and book dealers in this country.

## WORLD MAPS

In its Natural-Color Map Series, Jeppesen and Company of Denver employs a new technique of cartography. Color and shading are used to show the actual distinctive appearance of the ground and ground-cover. The results are attractive physical maps which can be very useful in teaching relief. One in the series, titled *Map of the World,* is drawn on the scale of 1:31,806,720 and measures $32 \times 58$ inches. An issue without the usual black overprint is also available.

A recent economic wall map is *Columbus Weltwirtschaftskarte,* published by Columbus Verlag Paul Oestergaard K. G., Berlin and Stuttgart. Issued as two colored sheets, the map measures $50 \times 65$ inches when mounted. The scale is 1:25,000,000. Agricultural and mineral products, industries, transportation and land types are clearly shown.

The Bureau of Current Affairs, Department of National Defense, Ottawa, is presently distributing for the Canadian Forces a monthly news map titled *World Current Affairs.* The series is similar to *World News of the Week* published by News Map of the Week, Inc., Chicago. Such maps enable the teacher to combine geography with current affairs.

*Stamp Map of the World,* designed and drawn by Ernest Dudley Chase and published by the Philatelic Institute, Cambridge, Massachusetts, 1953, combines an interesting hobby with geography. This pictorial map is colored and measures $20 \times 32$ inches. Notes on a few famous stamps and stamp collectors are included in the margins.

Several maps indicate the various interests of the United States Government.

*Marine Climatic Chart* prepared by the U. S. Weather Bureau and the Hydrographic Office, April, 1953, shows tropical and extra-tropical cyclones, fog, haze and ice. Two insets show for the periods January-February and July-August the "generalized pattern of primary air masses and fronts (superimposed on pattern of prevailing winds)." The chart is colored on a sheet measuring 26 ×38 inches, scale 1:70,000,000.

*Point Four Around the World* is the title of a colored map (28 × 34 inches) prepared by the Technical Cooperation Administration, Department of State, January, 1953. No scale is given. Types of aid to various countries are indicated as "1. agriculture, 2. education, 3. health and sanitation and 4. resources development, industrial and other technical services."

In December, 1952 the Department of State published a second revised edition of a colored map titled *Immigration Quota Areas According to the Immigration and Nationality Act of the United States.* Measuring 10½ × 38 inches, the map is drawn on the scale 1:60,000,000 and bears the series number 11438. This map, which illustrates the controversial McCarran Act, is sold by the Superintendent of Documents for twenty cents. The verso of the map shows the Asia-Pacific Triangle provided for in Section 202(b) of the Act and explains "Boundaries of Certain Quota Areas."

The American Geographical Society of New York issued several maps recently. Among them is *The World,* number eight in the AGS outline map series. The map measures 25 × 39 inches and is drawn on the Briesemeister elliptical equal-area projection, scale 1:37,500,000.

The Society also published a map depicting the *Distribution of Leprosy 1952* (23 × 36 inches, 1:37,500,000). This is plate seven in the Society's Atlas of Diseases. The prevalence of leprosy (rates per 1,000 inhabitants) is indicated by color combinations. Leprosaria are located and the generalized limits of populated areas are outlined. The verso contains a list of towns in which there are leprosaria, a list of foci, and a selected bibliography.

A third map published by the Society is *The Americas* (55 × 37 inches, 1:12,500,000). Relief is shown by hypsometric tints. Insets bear the titles: Moisture Regions; Natural Vegetation; Cities and Transport; and Agricultural Land Use.

The Swiss map publishers, Kummerly and Frey (Bern) published in 1953 a general map of *Nordamerika* (45 × 34 inches, 1:8,000,000). The legend is in German, French, English, Italian and Spanish. Political divisions, main roads, railroads and steamer routes are shown.

### MAPS OF THE UNITED STATES

Using the same technique as described above Jeppensen produced a map of the *United States of America* (34 × 55 inches, ca 1:3,480,000). "All mountains, valleys and other features are shown in their true shapes and positions just as they actually appear on the ground. Color and modeling are used to show the actual distinctive appearance of the ground and ground-cover rather than to indicate elevation zones. The topography is based on the latest physiographic surveys augmented by original aerial color photography and research." An issue is available without the black overprint for boundaries and place names.

The Detroit firm, Hearne Brothers, copyrighted in 1953 a colored political wall map of the United States (44 × 64 inches, ca 1:3,000,000). An accompanying index sheet contains separate lists of county and city names.

As part of its Simplified Land Surface Series, A. J. Nystrom and Company published in 1953 a colored map of the *United States and Mexico* (54 × 62 inches). Edited by Thomas F. Barton, the map is drawn on Bonne's projection at a scale of 1:3,000,000. The map shows "the surface features of the major landforms, large rivers, chief political divisions, and the most important cities. Green colors represent lowlands from sea level to 600 feet above sea level. Above 600 feet the character of the surface of the land is portrayed by black and grey shadings. Relative height, degree of ruggedness and extent of mountain systems, hilly uplands, plateaus and plains are all pictured by means of contrasting depths of shadows as tho the elevations were illuminated from west and north. This way of representing the earth's surface gives a three dimensional view similar to a photograph." The teacher of elementary geography will find this map very useful.

In honor of the 150th anniversary of the Louisiana Purchase, the National Geographic Society published in June, 1953 a colorful *Historical Map of the United States* (27 × 41 inches, 1:5,000,000). The map contains over 900 notes on the history of our country. The

Eastern Seaboard is enlarged in two insets to accommodate the multitude of place names and notes. An accompanying booklet gives a brief history of the Purchase, the story of how the map was produced and an index of 3,500 place names.

Two other maps on the history of the United States were copyrighted in 1953 by George F. Cram and Company, Indianapolis. The titles are *Early Grants and Origins of the Thirteen Colonies* and *Territorial Expansion to 1854*. Each map is colored, measures $36 \times 50$ inches, and is drawn at the scale of approximately 1:3,000,000. Relatively few place names and bold boundaries indicate that both maps are designed for elementary classes in geography and history.

Another map at the same size and scale copyrighted by Cram in 1953 bears the title *Agricultural Regions of the United States*. Twelve regions are distinguished by bright colors. In the East the regions with one exception (subtropical coast) are named after the crops: cotton, corn, corn and winter wheat, spring wheat, hay and pasture. In the West because of the dominating influence of topography and the Pacific Ocean, topographic and geographic names are used: North Pacific, South Pacific, California-Arizona Desert, Arid Inter-Mountain Plateaus, Rocky Mountain Region and Great Plains Region.

*Where We Grow Our Trees* is the title of a colored map of the United States produced by the American Forest Products Industries, Incorporated, Washington, D.C. Drawn approximately at the scale of 1:5,800,000 and measuring $24 \times 34$ inches, the map distinguishes the following types of forests: northern, central and southern hardwood, southern, western, west coast and redwood.

Treasure maps are ever popular with young and old alike. In 1952 Rand McNally and Company copyrighted the color-packed *Wild Bill Hickok Treasure Map* of the United States ($25 \times 36$ inches, ca 1:5,800,000).

In the same year R. T. Grumman of Cincinnati presented a wealth of information on his *Treasure Map of the United States* ($26 \times 41$ inches, ca 1:5,000,000). The map is black and white and has a somewhat crowded appearance.

*Map of the Treasure Seas More Than Three-and-a-half Centuries Old* is the title of an illustrated folder reproduced in a limited edition by Donnelley Deeptone Offset (Chicago, The Lakeside Press, R. R. Donnelley and Sons Company). This lovely re-

production (16 × 21 inches) was copied from the original map by Baptiste Boazio which is in the Ayer Collection, Newberry Library, Chicago. The full title of the original map with its early spelling and lack of punctuation reads as follows: "The Famouse West Indian voyadge made by the Englishe fleete of 23 shippes and Barkes wherein weare gotten the Townes of St. Iago, Sto. Domingo, Cartagena and St. Avgvstines the same beinge begon from Plimmouth in the Moneth of September 1585 and ended at Portesmouth in Iulie 1586 the whole course of the saide viadge beinge plainlie described by the pricked line Newlie come forth by Baptista, B." A page of text describes this famous voyage of Sir Francis Drake and his Treasure Hunters of the Spanish Main. It is regrettable that more facsimiles of original cartographic treasures in our great libraries are not available to students.

The maps noted below are published by the Bureau of the Census and are sold by the Superintendent of Documents:

1. *County Boundaries as of April 1, 1950.* 1952. 24 × 38 inches. 1:5,000,000. 30 cents.

2. *Minor Civil Division* maps of each State, Alaska, Hawaii, and Puerto Rico. 1952. Sheet size: 36 × 48 inches. Scales vary. 20 cents per sheet.

3. *United States, Population Distribution, Urban and Rural: 1950.* 1953. Colored. Two issues: 24 × 38 inches, 1:5,000,000 and 38 × 40 inches, 1:3,200,000. 35 cents.

4. *Location of Irrigated Land, 1949; 17 Western States and Arkansas, Louisiana and Florida.* 1952. Colored. 36 × 48 inches. ca 1:3,300,000, 35 cents.

5. *Map of the United States Showing Location of Drained Agricultural Lands: 1950.* 1952. Colored. 20 × 32 inches. 1:7,000,000. 30 cents.

Shows land in drainage enterprises and drained land in irrigation enterprises. Size of the enterprises is indicated by "larger dot = 5,000 acres; smaller dot = 500 acres."

6. *Congressional Districts for the 83rd Congress.* 1953. Map of the United States is 27 × 42 inches on sheet 58 × 42 inches. 1:5,000,000. 25 cents. 53 inset maps are included which give detailed divisions in metropolitan areas.

Another Government map published recently is *Puerto Rico e Islas Limitrofes,* compiled by the U. S. Geological Survey and distributed by the Department of the Interior of Puerto Rico. This

colored map (16 × 52 inches, 1:240,000) shows five classes of roads, public, private and military airports. An inset shows "Distritos Senatoriales." The map is available in contour and shaded relief editions. The latter is particularly useful in teaching the relief of the rugged island.

The U. S. Geological Survey recently completed a new shaded relief map of the entire area of *Mount McKinley National Park,* Alaska, scale 1:250,000. The press release announcing the map states "no comparable complete map of this area has ever been made before." Here is a stretch of extremely rugged terrain. Trails, roads, emergency fields and landing areas are marked—also the boundary line between Alaska's third and fourth Judicial Division which follows the crest of the Alaska Range. "In every direction from this highest point of North America (20,269 feet) flow rivers of ice represented on the map in blue-white tones." The map is available in two editions: contoured or shaded relief at twenty-five cents each.

Several maps of individual States merit mention. The following are useful for teaching historical geography:

1. *Ghosts Towns of the Old West* (Arizona, California, and Nevada). By John D. Lawrence, Los Angeles. c1953. Colored. 16 × 22 inches. Locates and describes 86 towns. Adventurous figures adorn the sheet.

2. *A Map of the Marked Historical Sites of California,* compiled from the official registrations of the California State Department of Natural Resources by Phil M. Townsend Hanna and William Webb; cartography by Lowell Butler. c1952. Available from the Automobile Club of Southern California, Los Angeles. Colored. 42 × 49 inches. 1:1,300,000. Text on verso. Very useful to the motorist.

Two maps of value to teachers of literature are:

1. *Illinois Authors* prepared for the Illinois Association of Teachers of English. Urbana, Illinois, c1952. Colored. 34 × 22 inches. No scale given.

2. *Literary Map of Iowa* prepared for the Iowa Association of Teachers of English. Designed by Harriet Larkin. Cedar Falls, Iowa, The Extension Division, Iowa State Teachers College, c1952. Colored. 18 × 24 inches. No scale given.

James W. Franklin of Chicago copyrighted in 1953 a colored map entitled *New Hampshire, Types of Agricultural Marketing and*

*Production* (13 × 9 inches, 1:800,000). It shows four types of production areas (subsistence farming, retail farming, wholesale farming and non-farming), marketing centers and lines of market access. One inset shows the farm-product flow to urban markets in New Hampshire. A second inset map shows the out-of-State markets in the northeastern United States.

Samuel A. King of DuBois, Pennsylvania, recently copyrighted another in his series of pictorial maps, titled *Heart of the Alleghenies, Central Pennsylvania's Vacationland* (20 × 24 inches, ca 1:200,000). Classes of roads and railroads, county boundaries, scout camps, stocked trout and bass streams, game lands, refuges, state parks and forests, airfields and golf courses are shown.

*Virginia Mineral Resources* (28 × 60 inches, 1:500,000) was prepared by Byron N. Cooper and Richard V. Dietrich, Department of Geology, Virginia Polytechnic Institute and published by the Virginia Engineering Experiment Station, Blacksburg, 1953. The map shows where 32 minerals occur and locates mineral industries. The left margin lists and describes the minerals. The right margin contains a diagram of physiographic provinces, a circle graph, "Percentage Distribution of Mineral Production" and a bar graph, "Mineral Production Value in Millions of Dollars."

*Physiographic Map of Wyoming* is the title of a map published in 1953 by S. H. Knight of Laramie. The map is black and white, measures 31 × 40 inches and has a marginal index. This map would be useful in teaching physical geography to advanced classes.

### MAP OF FOREIGN AREAS

C. S. Hammond and Company copyrighted in 1953 *Hammond's Superior Map of Canada* (29 × 40 inches, ca 1:5,800,000), which employs contrasting colors to distinguish the provinces.

Early in 1953 the National Geographic Society issued its popular colored map of *Mexico and Central America* (26 × 36 inches, 1:3,500,000) which shows principal railways, roads, the Pan American Highway, canals, airports, ruins and passes. Elevations and depths are given in feet. An accompanying index lists 5967 place names.

*Mapa de Regiones Agrícoles de Costa Rica* (13 × 19 inches, 1:1,350,000) is the title of a map compiled by Arthur W. Peterson in collaboration with the Institutos Interamericanos de Estadística y Ciencias Agrícolas (Zone Norte, Programa Técnico de Coopera-

ción). The map was published in 1952 by the Dirección General de Estadística y Censos.

A revision of the well-known Haack map, *Westeuropa* was issued late in 1952 by Justus Perthes, Gotha. This colored wall map, noted for its bold presentation of relief, is available for mounting in four sheets, each 44 × 33 inches. The scale is 1:2,000,000. Several map importers in this country carry the Haack maps.

The Ordnance Survey Office, Phoenix Park, Dublin, published in 1953 a colored map of *Ireland* (37 × 26 inches, 1:500,000). Roads and railroads are indicated and relief is shown by layer color. Insets cover Dublin, Belfast and Cork.

The Direction de la Documentation, 14-16 rue Lord-Byron, Paris, added the following maps to its present series:

1. *Carte Judiciaire de la France.* 28 × 32 inches. 1:1,400,000. (carte no. 54). Shows the boundaries of legal districts and locates various tribunals. Insets are devoted to Corsica, Departement de la Seine, and "Juridictions Militaires."

2. *Italie, Carte Economique.* 30 × 26 inches. 1:1,500,000. (carte no. 56). Locates numerous resources and industries. Differentiates zones of poor, average and intensive agriculture. Population density is the subject of an inset.

3. *Subcontinent Indien, Carte Economique.* 26 × 32 inches. 1:4,500,000. (carte no. 57). Shows the distribution of numerous industries and minerals and the areas of production of various types of agriculture.

4. *Le Sahara des Nomades.* Published in cooperation with the Centre de Hautes Etudes d'Administration Musulmane, Paris. 26 × 38 inches. 1:5,000,000. (carte no. 58). Shows the distribution of the Nomads, also camels, cattle, sheep and goats, the location of villages, markets and mines, and the direction of trade routes.

Twenty-six geologic formations are distinguished on the *Mapa Geológico de Espana y Portugal* (third edition, 1952) published by the Instituto Geologico y Minero of Spain. The map, issued in four sheets, measures 41 × 52 inches when mounted together. The scale of 1:1,000,000 is used on this official map.

*Die Weine der Schweiz, Les Vins de la Suisse, I Vini della Svizzera* is the tri-lingual title of a colorful map published in 1952 by the well-known firm, Kümmerly & Frey, Bern. The terrain of Switzerland is shown by shading and the wine regions are indexed.

Turning now to the Eastern Hemisphere, several maps which

appeal to teachers have been published recently. They include two by W. & A. K. Johnston, Limited, Edinburgh and London:

1. *Physical-Political Map of Asia.* c1952. 2 sheets, 42 × 50 inches when joined. 1:8,500,000. Eleven contrasting colors show relief. Boundaries and important place names stand out, thus making this a good map for the classroom.

2. *Physical-Political Map of Australia.* 1952. 42 × 50 inches. 1:4,000,000. Relief is shown by layer color; steamer routes and railways are indicated. Tasmania appears in an inset.

Another British map is *Burma, Malaya and Indo-China.* (34 × 22 inches, 1:4,000,000.) Published in 1953 by John Bartholomew & Son, Edinburgh. Relief is shown by layer color. Roads, railways, canals and pipelines are included among the cultural features.

*Indian Union Showing Railway Systems* is the title of a recent map published in Bombay by Ondez (India). This colored sheet (41 × 35 inches, ca 1:3,675,000) distinguishes broad, meter and narrow gauge tracks of the following railroads: Central, Southern, Eastern, North Eastern, Western and Northern.

The Survey of Pakistan, Murree, published in 1953 a second edition of its colored map of *Pakistan Showing Political Divisions* (25 × 31 inches, 1:3,168,000). International, provincial and district boundaries are delineated and main roads and railways are shown. Three insets pertain to Pakistan and Surrounding Countries; East Pakistan; and Janāgadh and Manavadar.

*Political Map of Oceania & Indonesia Showing Territories & Sphere of Influence of Each Nation* is the title of a map by H. E. C. Robinson, Sydney. Two colored sheets when joined form a map 39 × 59 inches (ca 1:11,750,000). Principal products and trade routes are indicated.

# A QUANTITATIVE ANALYSIS OF THE LOCATIONAL FACTORS IN THE INTEGRATED AND SEMI-INTEGRATED IRON AND STEEL INDUSTRY OF THE UNITED STATES AND CANADA[1]

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In the past there have been dozens of studies made on and about locational factors influencing the establishment of iron and steel industries at particular places.[2] None of them has made an attempt to determine quantitatively how much each of the many locational factors has influenced the situation of iron and steel centers.[3] In many respects this failure to assign quantitative values to iron and steel locational factors has been justified. Migration of population westward, migration of markets, changes in market character, geographic shift of raw material sources and other conditions have altered the importance of any given locational factor from decade to decade and from place to place.[4] The important factors in establishing an iron and steel industry a hundred years ago are almost certainly not the most important today. It is useful, however, to establish the relative importance of those factors which have determined the location of integrated and semi-integrated iron and steel mills in the past.[5] It is equally important to postulate about the

[1] This paper would not have been possible without the cooperation and assistance of dozens of responsible persons directly connected with the iron and steel industry. There is not space to acknowledge individuals, but the author wishes to express his appreciation to all those who have contributed information, suggestions and ideas.

[2] People in a number of different fields have written on this subject. Among the geographers are: Richard Hartshorne, "Location Factors in the Iron and Steel Industry," *Economic Geography*, IV (1928), 241-252 and O. W. Freeman, "Two Dozen Causes for the Location of Blast Furnaces and Steel Mills in the United States," *Journal of Geography*, XXIII (1924), 144-147. A valuable paper written by other than a geographer is: Walter Isard, "Some Locational Factors in the Iron and Steel Industry since the Early Nineteenth Century," *Journal of Political Economics*, LVII (1948), 203-217.

[3] Unless otherwise specified, iron and steel industries will refer only to integrated or semi-integrated establishments in this paper.

[4] This paper covers the iron and steel industry as a whole, and hence does not include specifics of time or place. The percentages presented are for the iron and steel industry of the United States and Canada as a whole, and variations from region to region would necessarily present results different from those of the entire country. Further studies for particular places and times would undoubtedly present a clearer picture for any given area.

[5] Where possible, it appears desirable for the geographer to devote more attention to specifics than 'glittering generalities.' The author recognizes that this study has a number of shortcomings, but it is hoped that it has moved a step in the direction of precise investigation.

relative significance of the locative agents presently operative and to speculate further as to the probable relative importance of the various locational factors in the future.

More significance must be attached to past locational factors, however, since iron and steel mills are relatively immobile. It is well known that integrated and semi-integrated mills tend to remain in the same area once established, because of the tremendous capital investment in plant and equipment.[6] It is likewise apparent that many of the present mills are ill situated with respect to raw materials, market, or any of a dozen other factors which are advantageous in normal operation of the iron and steel industry.

No doubt these limitations and many others have been considered by the authors who have failed to indicate, quantitatively, the significance of each of the various locational factors. This does not alter the fact that geographers, economists, industrialists and others need to have a fairly concrete notion of the importance which each of the various locational factors has, or more exactly has had, on the situation of integrated and semi-integrated iron and steel industries in particular places.

## PROCEDURE

Since writers have not attacked the steel location problem in exactly the same way as proposed by this study, namely quantitatively, the author has been forced to utilize other sources. It was natural to turn directly to the iron and steel companies.[7]

Such methods are limited in the degree of accuracy which they may achieve by a variety of conditions. First, the sample is by no means complete, since only about 40 per cent of those queried actually replied.[8] Secondly, many of the replies came from people who had little or nothing to do with the original establishment of a plant, and therefore could not be completely certain of their replies.

[6] An excellent article which emphasizes this point is: Allan Rodgers, "Industrial Inertia—A Major Factor in the Location of the Steel Industry of the United States," *Geographical Review*, XLII (1952), 56-66.

[7] Every iron and steel company listed in the *Directory of Iron and Steel Works of the United States and Canada*, American Iron and Steel Institute (New York, 1951) was sent an explanatory note which detailed the work that the author was trying to do. Every company was asked to estimate quantitatively (by percentage) the influence which each of many locational factors had in situating their particular plant or plants.

[8] Since the replies came from every part of the United States and Canada, the author feels that the sample is sufficiently large to merit statistical extrapolation. As has already been stated, the figures used apply to the American and Canadian iron and steel industry in general, and there may be considerable variations in certain geographic areas.

Finally, the replies of individuals could not be completely objective, since such answers were of necessity colored by personal opinions, judgements and estimates.

Even with these obvious limitations it is felt that such a survey has merit if the limitations are recognized. When the results of such a survey are combined with reasonable inferences drawn from extensive coverage of secondary source material, the end result should have considerable suggestive value.

## RELATIVE IMPORTANCE OF LOCATIONAL FACTORS

The results of tabulated questionnaires are those which most any geographer might expect. The factors most readily called to mind as important locators of iron and steel mills are indeed the most significant of the group. No startling upheaval of pre-conceived notions is likely to occur as a result of the findings of this study, but for the first time information related to iron and steel locational factors has been put into definitive terms. The list following contains all those factors mentioned as possible locational influences and the percentage importance, based on 100 per cent, which each shares in the average of all replies received by the author.

| | *Per Cent* |
|---|---|
| Access to Manufacturers Market | 13.6 |
| Access to Iron Ore | 10.8 |
| Access to Rail Transportation | 9.1 |
| Access to Electric Power | 9.0 |
| Access to Consumer Market | 7.9 |
| Access to Coal | 6.5 |
| Access to Skilled Labor | 5.7 |
| Access to Scrap | 5.4 |
| Access to Water Transportation | 4.4 |
| Access to Unskilled Labor | 3.5 |
| Access to Highway Transportation | 3.5 |
| Adequate Water Supply | 3.2 |
| Suitable Physical Site for Integrated Plant | 2.8 |
| Historical Accident | 2.7 |
| Access to Power (other than electric) | 2.2 |
| Access to Limestone | 2.0 |
| Land Available for Plant Expansion | 2.0 |
| Favorable Tax Rates | 1.7 |
| Adequate Waste Disposal Facilities | 1.5 |
| Access to Ferro-alloys | 1.3 |
| Personal Preference of Company Executive | 0.5 |
| Favorable Wage Scale | 0.5 |
| Favorable Climate ..... less than | 0.2 |
| Strategic Considerations ..... less than | 0.1 |
| Total | 100.0 |

This detailed breakdown can be condensed to show the share which each of the classical factors contributes. This condensation follows.

| | *Per Cent* |
|---|---|
| Access to Raw Materials | 26.0 |
| Access to Market | 21.5 |
| Access to Transportation | 17.0 |
| Access to Power | 11.2 |
| Access to Labor | 9.2 |
| Site and Situation | 4.8 |
| Water Supply and Waste Disposal | 4.7 |
| Historical Accident and Personal Preferences | 3.2 |
| Others | 2.4 |
| Total | 100.0 |

This last gross group merits special attention in its general aspect and its constituent parts. A brief analysis of these percentage figures follows.

## Raw Materials

The greater importance accorded to raw materials demonstrates effectively that the assembly of bulky raw materials attendant to iron and steel manufacture has been one of the prime considerations of the manufacturer. Masses of raw materials mean high freight rates, and greater haulage distance raises cost of production by increasing freight rates. Higher production costs reduce competitive advantage and may ultimately result in market loss.

The portion of the raw material total which each of the separate raw materials contributes is particularly meaningful. Percentage wise, iron ore is the most important of the raw material factors. This larger iron ore share illustrates the fact that large quantities of high grade iron ore deposits are restricted to relatively few localities.

Coal is the second most important item in the raw materials list, and is fairly widespread in occurrence in the United States and Canada. However, coal of metallurgical coking quality is limited in quantity and restricted to a few geographic areas. Coal is not considered as important as iron ore in the over-all picture since large quantities of coal other than coking are consumed in the industry.

Scrap metal's third position among the raw materials demonstrates effectively the increasing dependence of the North American iron and steel industry upon scrap as a basic raw material. Today,

almost one-half of the American and Canadian steel production comes from re-smelting and re-processing of scrap metals. The significance of scrap metal will continue to be great and may actually increase in relative importance in the years to come.

The small share of the raw material percentage total which is contributed by limestone indicates the widespread occurrence of suitable fluxing stone. Very few areas in the United States and Canada are far from adequate fluxing stone, but it does merit some consideration in locating an iron and steel industry, since its transportation is an expensive item. Obviously, increased haulage distance means higher costs and a reduced margin of profit.

The ferroalloys are the least important of the raw materials, since the amounts consumed are small compared to the total resource consumption. In addition, many of the ferroalloy materials must be imported from widely scattered places, which makes it practically impossible to situate a plant with ready access to all of them.

## MARKET

Market for the finished product must be one of the prime considerations in the location of any iron and steel plant. The complete absence of a market would preclude the location of a plant, even if all the other situational agents were optimum. Fortunately, however, in the United States and Canada the extractive and facilitative industries related to iron and steel production are located in close enough juxtaposition to practically eliminate the condition outlined in the statement immediately above. Access to market thus falls in second position behind access to raw materials as a locator of the iron and steel industry of Canada and the United States.

Of the 21.5 per cent share which market contributes in locating iron and steel industries, a manufacturers market accounts for 13.6 per cent of the total. This fact emphasizes the greater importance of metal fabricators, such as tool, machine tool and machinery manufacturers, in the total iron and steel market. Although large quantities of materials are used directly by consumer markets, the largest share of goods produced by iron and steel mills is consumed by the manufacturers market.[9]

[9] Figures on shipments of steel for nine months of 1950 show that of the differentiated shipments 20,378,000 tons went to a manufacturers market, whereas 18,381,000 tons went directly to a consumers market for use without further manufacture. Similar comparisons are valid for 1948 and 1949, as well as for other years. See *Steel Facts*, No. 105 (December 1950) 2.

### Transportation

Third place in the percentage evaluation of iron and steel locational agents is held by transportation. No industry of the size and complexity of the iron and steel industry can exist without a satisfactory transportation network for the assembly of raw materials and the distribution of finished products.

The share which each of the major modes of transportation contributes to the transportation percentage total is meaningful and suggestive. Rail transport stands at the top of the list with 9.1 per cent of the total, and this demonstrates effectively that railroads have been and are the workhorse carriers in the United States and Canada.

The large share attributed to water transport indicates the attention which iron and steel companies give to lower freight rates where such transportation is feasible. It must be reiterated that the iron and steel companies are vitally concerned with assembling and disseminating bulky products at the lowest possible cost.

The 3.5 per cent share attributed to highway transportation points to the increased size and versatility of motor carriers and the ever expanding highway network. The truck has increased the flexibility of the iron and steel industry, and thus has been strongly considered in plant location.

### Power

Access to power contributes 11.2 per cent to the sum total of locational factors. There is a universal awareness of the tremendous amounts of power consumed by a multitude of machines in an integrated iron and steel mill. There is little wonder that access to power has been such an important situative agent.

Electric power has had far greater significance in the considerations of iron and steel company planners and executives because of its greater use and versatility. Gas, steam and other types of power are also important, but such types of power are frequently produced by the mills themselves incidental to the plant operation. Outside power sources, other then electricity, are required in large quantities normally by the producers of special purpose products. These producers are more atypical than typical. Electricity has been, and probably will continue to be, the power hub around which an iron and steel mill operates.

## LABOR

Labor has the smallest share of any of the big five locative factors (Access to raw materials, market, transportation, power and labor). This fact is not surprising. Labor has become increasingly mobile, and frequently the job attracts labor, rather than labor attracting the plant.

The greater importance attributed to the skilled laborer by industrialists indicates that reservoirs of skilled labor are more restricted in quantity and in geographic location. In addition, skilled laborers may be more fixed in one area because their higher income has enabled them to establish firmer roots in some particular locality.

## MINOR LOCATIVE FACTORS

Of the minor locative factors, site and situation is the most important. Closely following it in importance is adequate water supply and waste disposal facilities, with historical accident and personal preference of the company executive not far behind. Miscellaneous factors account for the remaining 2.4 per cent.

The fact that site-situation and adequate water supply-waste disposal account for approximately five per cent each of the total shows clearly the considerable importance which they have exerted on plant location. Cheap land and ample room for expansion have obviously been clearly in the focus of many planners. Industries of the magnitude of iron and steel producers must have large acreages of fairly level land into which they may expand as the industry grows.

Land must also be available for the dumping of slag and other waste materials. Adequate opportunity to discharge the variety of wastes and millions of gallons of water must be afforded the iron and steel producer. Unlimited supplies of water must be available for the multitude of cooling jobs. No modern industry, particularly the iron and steel industry, can operate without large quantities of water.

Historical accident and personal preference of the company executives have on numerous occasions been the principal factor in situating an iron and steel industry at a particular place. Even more frequently this preference of the executive has been enough weight to tip the balance in one direction if all the other factors have been equal, or almost so. As a result some of our iron and steel

industries have been established with little regard for sound economic-geographic principles, and like Topsy, they have just grown. Even tho some of these plants are ill-situated, they continue in the same place because of the tremendous capital investment which they represent.

The remaining factors mentioned (climate, favorable tax rates, favorable wage scale and strategic considerations) are generally unimportant as locative factors. It is not difficult to see why these last named factors have been relatively insignificant.

Differentials in wage scales have largely ceased to exist. Climate is largely advantageous or disadvantageous seasonally, and the beneficial and delterious effects tend to counterbalance one another. Favorable tax rates may have been, in some cases, important considerations. If all other factors were equal, favorable tax rates possibly assumed unusual importance. Strategic considerations have been, in the main, entirely neglected in past plant location. If present world tensions continue, however, strategic considerations may assume greater importance.

## Contemporary Locative Techniques

The preceding discussion and analysis of the relative importance of the various locational factors applies to plants already established and in operation. The relative importance of the various locational factors are probably very different at the present time. Present day locating techniques are considerably advanced over those which were used in the past. Most steel companies have a market research division, which would undertake intensive and detailed studies before establishing a multi-million dollar plant.

Present procedures for locating an integrated iron and steel mill would probably closely parallel the following sequence.[10] Emphasis at the present time appears to be placed upon the market. The first step in determining the available market is to carefully locate the industries which are competitive within some large area. Next, the freight rates from these competitive centers to major market centers must be determined and analyzed. Then, a location/locations (for the establishment of an iron and steel mill) must be

[10] The author is indebted to a member of one of the market and research divisions of one of the large steel companies for most of the information included in this section on present locating techniques. The gentleman, who is the source of most of this last material, did not wish to have his company's or his name used.

selected which has/have a freight rate advantage in a particular area with reference to competitors. Measurements from this/these locations are then made using freight rates as the yardstick. By this procedure it is possible to rough out an area which will be dominated freightwise from a particular location or locations.

Next, this rough area is either expanded or contracted by the cost advantage or disadvantage incurred in assembling raw material at the selected locations. This balancing of raw material assembly costs at various locations will prove to be an extremely difficult technical problem. If it is discovered that the competition has a raw material assembly advantage, it will be necessary to decrease the size of the roughed out area by an equivalent amount in terms of freight rates on the finished product. Obviously, if there is an assembly advantage on raw materials the area may be expanded by means of the freight rate yardstick.

In making these comparisons the common denominator is, of course, the delivered cost of the finished product from the various competing mills. The object is always to deliver the finished product at a cost equal to or slightly less than the competitors.

With the "normal market area" (that area in which the proposed plant is dominant or equal to the established competition) the final step is the actual measurement of the consumption within this established area. If it is established, for example, that a million ton market could be dominated by the mill, it would still not be possible to justify the construction of a million ton capacity mill. Even under optimum conditions a mill should never assume that it will be able to secure more than 50 per cent of the available market. Consumers hesitate to place all their business with one producer and will frequently pay a premium to insure more than one source of supply. Likewise, when supply exceeds demand, producers will absorb freight in order to retain their markets.

This technique of shrinkage of an initial large geographic area, and the techniques involved in the location of an iron and steel industry as outlined above are by no means universal. No one way is the best way. The location of an integrated or semi-integrated iron and steel mill is subject to almost infinite modification and variation depending on the individual situation. It is to be hoped, however, that the outline of technique shown above will suggest the sort of thinking current in the market and research divisions of the large iron and steel corporations.

SUMMARY

A quantitative analysis of the locational factors contributing to the situation of iron and steel centers is extremely difficult. Variations in time and place are almost infinite, but generalizations derived from quantitative data are probably more valid than similar generalizations based on qualitative information.

Replies from responsible men in the iron and steel industry of the United States and Canada indicate that there are five major and four minor groupings of iron and steel locational factors. The survey shows that access to raw materials, access to market, access to transportation, access to power and access to labor are the most significant listed in descending order of importance. The minor factors similarly listed are: site and situation, water supply and waste disposal, historical accident and personal preference, and others.

Such a percentage share of the total possessed by the preceding list by no means purports to indicate that similar factors are presently operative in the amounts indicated. In fact, it is suggested that present day locational techniques may be quite different from those of the past.

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## TELEVISING GEOGRAPHY: REPORT NO. II

REPORT OF THE TELEVISION COMMITTEE
FOR THE N.C.G.T.*

During the summer of 1952 a national survey was made among geography departments of colleges and universities to determine the amount of geography being presented over the medium of television. The survey indicated that little or no effort was being made by professionally trained geographers to inform the TV public of their field. Prior to September 1952 only three universities had given three or more televised programs: the University of Utah (10), the University of Cincinnati (14), and Western Reserve University (39). The last named was the only one in the country offering a course for college credit.

The concensus of opinion gleaned from the questionnaires

* Read at the Annual Meeting of the National Council of Geography Teachers, Buffalo, New York, November 27, 1953.

showed that TV was still too new for geographers to realize the impact of televised geography upon a rapidly enlarging TV public. In addition, most geographers are too busy with full time classroom schedules to turn their attentions to this medium.

This past autumn a questionnaire was mailed to commercial stations in the United States. Of the 346 stations receiving it, 37.4 per cent returned it. Of this number, 6.4 per cent were new stations and had not yet gone on the air. Results show that little or no geography was televised since September 1952.

## SOME QUESTIONS AND ANSWERS

In answer to the question in the survey on the visual aids employed, well over half of the stations use globes and maps, chiefly by newscasters. Weather maps were included in this number. A few stations use maps and globes for props only. Some mentioned that there was a need for more maps designed specifically for TV use. Blackboards, felt boards, specimens, educational slides and motion pictures are also commonly used by a number of stations.

The answers to some of the questions reveal clearly that the field of geography is little understood by program directors or others of the administrative staff. The usual answer was "No" but some replied that a geographer was employed by stating that a meteorologist is called in to give the weather news. One said that a geographer is employed but his station duties are in art and photography. Possibly he is used to prepare visual aids. Only one reported an announcer with an undergraduate major in geography.

To the question "Is a geographer employed to explain to the TV audience the underlying principles and factors in such topics as droughts and storms, centers of political intrigues and warfare, internationally important commodities, development of political states, important routes of travel?" the answers are in the negative. Station newscasters and analysts give the information on international news. In this phase, alone, geographers could function very well.

This question was asked, "Do you schedule programs of geographic nature?" The answers are also in the negative in nearly every case. Travelogues, on the other hand, are more commonly used but generally on film rather than live programs. A good many stations reported that a travel film is being presented for fifteen minutes once a week. Many are sponsored by commercial firms, i.e.,

airlines, travel bureaus, et cetera. Occasionally guests of the American Automobile Association or an interview of well-known travelers make appearances to relate their experiences. A program director in Wilkes-Barre, Pennsylvania, wrote "While we telecast nothing of purely geographic nature, we utilize as much geographic material as we can muster to clarify our news broadcasts. The weather stories are always projected on full maps with verbal explanations of pertinent topographic features. In addition to the news and weather there are irregular but frequent interviews dealing with politics, economics, . . . well, a reasonable range of the social sciences."

Another question asked was "Are any courses being televised under the supervision of the public schools and colleges?" The survey shows that no specific geography courses are being offered. Of the stations returning the questionnaire, the following city schools telecast daily programs over commercial stations of a variety of physical and social sciences for the different age groups: Tulsa, Ames, Minneapolis-St. Paul, Philadelphia, Baltimore and Cleveland.

## Educational Programs

When the firemen and engineers went on a strike in the Baltimore schools in January, 1953, the commercial stations cooperated with the public schools to use the TV services for four hours each day to carry on the school lessons during the week's strike. The success of such an emergency measure shows conclusively the value of TV in education.

WEWS Cleveland is no doubt the leading commercial station giving time for educational programs. The Cleveland Public Schools run two 15-minute evening non-credit programs a week over this station. One, "Know Your Schools," is devoted to interest and informs the public on what the schools are doing in education. Actual classroom experiences are televised with children taking part. Each series of several weeks in length aims to reach particular age groups in both elementary and secondary schools. Of the 95 programs already given, approximately 10 per cent were devoted to the social sciences. Only two were geographic in nature. With senior high students a lesson was taught regarding Mexico's relations with the United States and with other Latin American countries, the other for fifth grade pupils on the opening of the

Great Lakes shipping season and Cleveland's importance in this means of transportation.

The other weekly program is directed specifically to adults ranging from mechanical and household techniques, to art and music, auto safety, amateur astronomy, et cetera. In the social studies field, 13 programs were given to the history of the Connecticut Western Reserve of northeastern Ohio and the other "Let's Explore Ohio," a travel series. The Pulse survey shows that 50,000 sets are tuned in on the Cleveland School programs with two and one half to three persons viewing each set.

Other public schools and city museums in Los Angeles, Milwaukee, Minot, North Dakota and Harrisburg telecast weekly on a variety of subjects. Now and then a geography lesson is given.

At the college level academic programs in political science, history, economics, business, child development, the biological sciences are given but not as regularly scheduled courses. Los Angeles City College is giving one 30-minute Headline Reports a week for adults in the national and international affairs. Omaha uses personnel of three nearby colleges to televise subjects of general interest. Elmira College, New York, also telecasts over the local station. Among the courses for credit given by Toledo University was one on the "History of Ohio" in commemoration of Ohio's Sesquicentennial of the founding of the state. The colleges and universities in metropolitan Philadelphia give two 15-minute programs daily in a number of subjects but no geography is listed in the November programs sent by the station. A Salt Lake City station has given an extension course for the University of Utah on the "History of the West." KING Seattle will televise "Geology of the Pacific Northwest" for three hours credit by University of Washington in the spring of 1954. WTMJ Milwaukee has been televising educational programs under the supervision of eleven Wisconsin colleges. The University of Illinois map librarians gave a half hour demonstration in "The World of Maps." Other TV map programs will be carried on in 1954.

WEWS, Cleveland, is also devoting six 30-minute morning periods a week for presenting two 3-hour college Western Reserve University telecourses per semester. Geography, history, political science, drama and speech have been offered. After a few courses in other disciplines are televised, the cycle will be completed and second courses in each will probably be offered. In addition to the

home study telecourses for credit, non-credit short courses are also televised. A 30 minute Sunday P.M. program on various subjects has been given regularly by the University personnel. On Sunday last, I was asked to discuss the problems of long range weather forecasting for this winter, an outcome of the previous week's unusually mild weather.

While little geography is being televised over the country, the foregoing instances of educational TV by commercial stations show the vast potentialities of this medium to enhance the field of geography and spread the knowledge of this subject. A teacher can reach more people in one lecture than he can in a life time teaching in a classroom.

Doubtless other commercial stations are televising educational programs for all age groups but five-eights of the stations contacted did not return the questionnaire. This recent survey did not get any returns from the non-commercial educational stations, possibly because so few are yet in operation.

## Non-Commercial Stations

John H. Walker, a member of Television Committee, has been investigating the activities of non-commercial stations. He states that the Federal Communications Commission has set aside 242 non-commercial channels for use by 2000 stations in some 1300 communities for educational use. The states of New York, New Jersey, Connecticut, Pennsylvania, North Carolina, Wisconsin and California are considering state-wide educational TV networks. A large number of applications for educational stations have been filed with the F.C.C. for school and home receiving sets. As yet there is no opposition by commercial stations against educational outlets. Two non-commercial stations, KUHT, Houston and KUSC in Los Angeles are televising. WQED Pittsburgh, WTUJ, Miami, one in Detroit and 23 other non-commercial stations are slated to be on the air in 1954.

The problems of financing the construction and operation of educational TV stations are not yet solved. Public funds chiefly thru state legislature and foundations will do doubt supply the major portion of financing.

Until the wrinkles can be ironed out in non-commercial educational TV outlets, geographers can turn their efforts to using commercial stations. The stations have an obligation under the

rules of the F.C.C. to devote time each week for educational programs.

### GEOGRAPHY PROGRAMMING IN THE FUTURE

In answer to the question in the survey, "Do you plan to televise subjects of geographic nature in the future," a number answered in the affirmative. In order to have geography programs accepted, geographers will have to plan each presentation carefully, use visual aids to the best of advantage for the TV screen, and offer subject matter of absorbing interest in order that geography will have a permanent place in TV. Geographers will need to approach school administrators and TV program directors to convince them that we have a valuable subject to televise. Without a doubt, geography is a natural for TV. A program director in El Paso, Texas, wrote, "Please don't infer from the answers above that I fail to see any value in geographic TV programs. Actually, I feel they have a place in Television, and would be very valuable programming. I think our existing new programs impart considerable geographic knowledge—with films, maps, charts, etc. I would like to see, in the future, a network program devoted to a complete geographic report on the United States, with remote pick-ups from representative communities all over the land. For instance, we could contribute a live TV picture from our transmitter site—a mile above sea level—that would show two countries and three states. From there you can see the area where the first A-Bomb was exploded, Biggs Air Force Base, Fort Bliss and its guided missile ranges, the Rio Grande, Mexico, Juarez and the Juarez mountains, the statue of Cristo Rey, . . . Similar pick-ups could be made from other cities."

Program directors in a number of cities are willing to televise geography to all age groups. Most of the following cities with television stations have colleges within their metropolitan limits: California, Bakersfield; Colorado, Denver; Connecticut, New Haven; Illinois—Decatur, Quincy, Syracuse; Iowa—Ames, Cedar Rapids; Louisiana, Monroe; Massachusetts, Worcester; Minnesota, St. Paul; Missouri, Kansas City; Nevada, Las Vegas; New York, Schenectady; North Carolina—Charlotte, Greensboro; Ohio—Cincinnati, Cleveland; Oklahoma—Oklahoma City, Tulsa; Oregon, Medford; Pennsylvania, Wilkes-Barre; Rhode Island, Providence; South Carolina, Columbia; South Dakota, Sioux Falls; Tennessee,

Johnson City; Texas—Abilene, El Paso, Fort Worth, Houston, Lubbock, St. Angelo; Virginia, Lynchburg; Washington, Seattle; West Virginia, Parkersburg; Wisconsin—Green Bay, Madison.

This survey shows that geographers have not taken advantage of television to impart their knowledge to an interested public. We are so involved in classroom teaching that we are not making use of this broader medium. The graduate departments of geography have so confined the field of training that we are too narrow, too academic to make much use of geography outside the classroom. There are exceptions, of course, in the field of government, in map companies, city planning, et cetera. To broaden the student, geographers should have other distinct fields of interest in graduate training. Courses in business, economics, conservation, public relations, speech and writing would open other vistas for them. For example, those geographers who have a flair for writing and articulate in speech should be encouraged to take courses in program directing, script writing, announcing, newscasting and other important positions in radio and TV. We need expert geographers who can get positions as newscasters and analysts in large networks. If stations cannot be interested at first in geographic topics of academic nature then travel talks would be a means of presenting geographers over TV. Graduate departments should look to TV as an outlet for those graduates with specialized aptitudes in this important audio-visual field. Geographers are prone to be invited to participate in new ventures. We must sell our bill of goods. If we wait until we are asked, we will continue to wait.

The survey shows that other fields in the social sciences are being televised far more than geography. Unless geographers make the effort to get on the air, the historians and political scientists will capture the social science programs in both commercial and educational TV stations in the near future.

### Members of Television Committee

The following persons served on the committee during the survey: Mr. Malcolm Davies, Polytechnic Institute, Baltimore Public Schools; Dr. Eleanor Hanlon, Department of Geography, Syracuse University; Mr. Kenneth Haydon, Public Schools, Indiana, Pennsylvania; Mr. John H. Walker, National Geographic Society, Washington; Dr. Mildred Danklefsen, Chairman, Department of Geology and Geography, Western Reserve University.

# REPORT OF THE FORTIETH MEETING OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

The fortieth annual meeting of the National Council of Geography Teachers was held in the Palace Hotel in San Francisco on August 19 and 20, 1954. This was the first time the geographers had taken their meeting to the West Coast and many of them used the occasion for an extended vacation in those states bordering the Pacific, called the Far West.

The geographers came from 27 states and, as might be expected, California, the host state, had the largest number in attendance, followed by Washington, Illinois, Pennsylvania, New York, Oregon, Indiana, Missouri and Texas, in the order named. The East Coast was represented by geographers from Massachusetts and Rhode Island. In the registration, members came from nine states east of the Mississippi and 18 states west of the Mississippi.

The theme for the meeting was "Applied Geography of the Far West." The papers presented at the several sessions were scholarly and stressed various aspects of the general theme of the conference. The papers and lectures presented by our colleagues, the West Coast geographers, were highlights of the program. At the close of each session, an opportunity for discussion under capable leadership was provided.

The program included four general sessions, two luncheon meetings, an innovation of last year that proved to be highly successful and the usual banquet. On Saturday, August 21, a bus trip covering Industrial San Francisco and Muir Woods and an airplane trip had been planned, and geographers took full advantage of these tours.

At the banquet, Dr. Otis W. Freeman presided and at the close of the dinner, presented Dr. Thomas F. Barton, editor of the JOURNAL OF GEOGRAPHY, who announced the winners of the JOURNAL OF GEOGRAPHY prizes. The winner of the 1954 R. H. Whitbeck Prize is Dr. Lucille Carlson, the winner of the 1954 Richard Elwood Dodge Prize is C. Langdon White and the winner of the High School Geographic Education Prize is Mrs. Linnie B. James. The Distinguished Service Award was presented this year to Erna Grassmuck Gilland and the citation was read by Howard H. Martin.

## MINUTES OF THE EIGHTH GENERAL ASSEMBLY

The eighth General Assembly met at 4:00 P.M. on Friday, August 20, in Room 2001 of the Palace Hotel. Fifty persons remained for this business meeting of the National Council of Geography Teachers.

The assembly voted on two minor changes in the constitution, changes which previously had been passed by the Executive Board. By a favorable vote, Article 2, Section 4 of the constitution was changed to add to the list of officers, that of Director of State Coordinators. The second change increased the size of the Executive Board and to Article 4, Section 3, the word "nine" was substituted for the word "six," thus increasing the Executive Board by three members. The change provides for a larger reservoir for future officer material.

The Secretary gave the report on "Our Fortieth Year."

In the absence of John Garland, the Treasurer's report was read by the Secretary. The report, examined by a certified accountant, stated that the books were in order and the report was accepted.

Zoe Thralls, chairman of the Planning Committee, made the following recommendations:

1. Publication Committee: We recommend that when special problems concerning publications are encountered that the chairman of the Publications Committee take up the problem with a committee composed of:

   President of the National Council

Secretary of the National Council
Editor of the JOURNAL

and this group have the authority to give the Publications Committee a decision on the problem.

2. The Planning Committee recommends that the Television Committee be reconstructed and enlarged.
3. The Planning Committee recommends that the Committee on Tests be reconstituted and be given more specific directions to make a test on North America for the elementary level.
4. The Planning Committee recommends that a committee be appointed to explore the possibilities of the National Council working toward developing a test with the Graduate Record Examination Board of Princeton.

The motion was made by Mamie Anderzhon and seconded by Carl Winter that the recommendations of the Planning Committee be accepted. The motion was carried.

## THE REPORT OF THE RESOLUTIONS COMMITTEE

The Resolutions Committee presented the following report to the General Assembly: The fortieth annual meeting of the National Council of Geography Teachers is completing its first meeting on the Pacific Coast, therefore, be it resolved that those who contributed to its success be extended a public word of appreciation:

To the staff and management of the Palace Hotel for efficient and courteous cooperation.

To the San Francisco State College for providing projection equipment and operators.

To Santa Rosa Junior College for luncheon and dinner flowers.

To Station KPIX—TV, Mr. Dempsey, Standard Oil Company of California and Mr. McNay for assistance in making possible the two television broadcasts.

To the members of the several committees whose work made our fine program possible. Special thanks go to the Program Committee and the Local Arrangements Committee, John Kesseli for planning the airplane tour, James Parsons for arranging the bus trip, Lyle Gibson and the guides, Mr. Lee and Mr. Au, for planning the Chinatown tour.

To all who participated in the meeting, especially those who prepared papers or served as discussion leaders.

Be it also resolved that the members of the council express sincere appreciation to our officers for their stimulating leadership and service in furthering the cause of the National Council of Geography Teachers.

## THE NEW ADMINISTRATION

The following slate of officers for the year 1954-1955 was presented for approval by the General Assembly. The report was read by the Secretary in the absence of all members of the nominating committee, which consisted of Dr. Kenneth Bertrand, Chairman; Dr. Adelbert K. Botts, and Dr. H. F. Raup:

President: M. Melvina Svec, Teachers College, State University of New York, Oswego, New York

Vice-President: Dr. Norman Carls, American University, Washington, D.C.

Second Vice-President: Mary Viola Phillips, New Kensington High School, New Kensington, Pennsylvania

Secretary: Ina Cullom Robertson, State Teachers College, Valley City, North Dakota (three years)

Treasurer: Dr. John Garland, University of Illinois, Champaign, Illinois

Executive Board: (one year) Bernice M. Casper, Trenton, New Jersey, State Teachers College

Executive Board: (two years) Chester F. Cole, Fresno, California, State College

Executive Board: (three years) Miss Ann Berich, Woodrow Wilson High School, Youngstown, Ohio

Executive Board: (three years) Dr. G. David Koch, Indiana State Teachers College, Terre Haute, Indiana

Executive Board: (three years) Lyle R. Fletcher, Bowling Green State University, Bowling Green, Ohio

As there were no nominations from the floor, it was moved by Earl Shaw and seconded by Zoe Thralls that the slate of officers be accepted as presented. The motion carried.

The NCGT will hold its annual meeting November 25-26, 1955 in Indianapolis, Indiana.

INA CULLOM ROBERTSON, *Secretary*
National Council of Geography Teachers
State Teachers College
Valley City, North Dakota

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## THE NATIONAL COUNCIL AT WORK

Have you wanted to write to any officer or member of the Executive Board concerning the work of the National Council? Those who have directed the work of the NCGT for the year 1954 are:

President, Otis W. Freeman, 2428 Miller Street, Seattle 2, Washington.

First Vice-President, M. Melvina Svec, State University Teachers College, Oswego, New York.

Second Vice-President, Mamie L. Anderzhon, William Beye School, Oak Park, Illinois.

Secretary, Ina Cullum Robertson, State Teachers College, Valley City, North Dakota.

Treasurer, John H. Garland, Department of Geography, University of Illinois, Urbana.

Director of State Coordinators, Mamie L. Anderzhon, 112 N. Marion, Oak Park, Illinois.

Editor of THE JOURNAL OF GEOGRAPHY, Thomas F. Barton, P.O. Box 195, Bloomington, Indiana.

In addition, nine members of the National Council serve on the Executive Board.

Chester F. Cole, Department of Geography, Fresno State College, California.

Lillian Worley, Department of Geography, University of Tennessee, Knoxville.

Byron K. Barton, Eastern Illinois State College, Charleston.

Clyde F. Kohn, Department of Geography, Northwestern University, Evanston, Illinois.

John B. Finney, Anderson High School, Anderson, Indiana.

Helen Mixter, Department of Education, Administration Building Annex, 2418 St. Paul Street, Baltimore, Maryland.

Henry J. Warman, School of Geography, Clark University, Worcester 10, Massachusetts.

Sydney E. Ekblaw, Department of Geography, University of Kansas City, Missouri.

Warren T. Strain, State Teachers College, Slippery Rock, Pennsylvania.

Henceforth, the major task of the Second Vice-President is to be Director of Publicity at all levels; national, state, regional and local, but working as much as possible thru already established channels such as State Coordinators, State Councils, Affiliated and Associated Clubs.

The Distinguished Service Award Committee under the chairmanship of Dr. Earl B. Shaw, State Teachers College, Worcester, Massachusetts, welcomes nominations of candidates who have shown outstanding contributions in geographic education.

From time to time, reports will be made on the progress of committees at work, the completion of projects and other activities.

A number of changes in the Constitution and By-Laws are being considered by the Executive Board. These will be outlined shortly on this page. Why not study the May 1952 issue of THE JOURNAL OF GEOGRAPHY, and should you have any suggestions or comments, please do write to the Secretary or President.

Upon the completion of the annual meeting and program in San Francisco last August, Dr. Freeman tendered his resignation to be effective October 1, 1954. The fiscal year of the National Council closes January 31, 1955.

M. MELVINA SVEC, *Acting President*

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W. S. Woytinsky and E. S. Woytinsky. **World Population and Production.** The Twentieth Century Fund, New York, 1953. 1268 pages, 497 tables, 338 maps and graphs, index. $12.00.

There seem to be no "middle of the roaders" among contemporary authors who deal with population and resources. Readers are alternately confronted with the "direst of disasters" or given soothing potions of "there is no need to worry, science will solve all our problems." The Woytinskys, agreeing with the latter group, predict a world population of 3,250 million by 2000 A.D. Just as we are entering a new era of "wonder drugs," they would have us believe that world population will increase only 35 per cent during the next 50 years as compared to a 50 per cent gain during the past half-century.

Contrary to their conservatism in estimating population growth, the Woytinskys are overly optimistic in assuming the world can produce 46 per cent more food by 2000 A.D. Their arguments for expansion of population thru technology and for greater production in the temperate climates are plausible, but their speculation on the "empty tropics" falls flat. Robert L. Pendleton warns against over optimism in evaluating the possibilities of food production in the tropics and specifically points out the superior quality of Philippine soils which the authors use as their tropical yardstick.

Even if we can bring ourselves to believe that the world can produce enough to feed 3,250 million people in 2000 A.D., human problems have to be faced before the food is available to those who need it. Unlimited migration, changes in dietary habits and unselfish giving by the "haves" to the "havenots," all aspects of the problem, are almost completely ignored by the authors. With present world conditions, who can foresee such Utopian possibilities in the next half-century?

This book offers much more than predictions of future population and production. It is packed with facts and figures of unquestionable utility. The bibliography is extensive and well-selected, altho lacking in post-war titles. Geographers will find it a desirable addition to their shelves, and for economic geographers and libraries it is a must.

GEORGE F. JENKS

*University of Kansas*

**Hogner,** Dorothy Childs, Earthworms, Pauline Schlechty (A Review) 266
**Hood,** Peter, How the Earth Is Made, J. Edwin Becht (A Review) 367
**Horticultural** Supply of the Chicago Metropolitan Area, The, Arvin Hahn, 254
**Houston,** Alma, Nuki, J. Lewis Robinson (A Review) 46
**Hu,** Charles Y., Some Basic Problems Concerning Inventory of World Land Use, 123

**Illingworth,** Frank, North of the Circle, J. Lewis Robinson (A Review) 85-6
**India** and Her Neighbors, Countries Around Indian Ocean (Maps) Sitanshu Mookerjee (A Review) 269-70
**Irrigation** Begins in the Columbia Basin Project, R. S. Funderburk, 1

**Jackson,** J. B. ed. Landscape, Derwent Whittlesey, (A Review) 228
**Jenks,** George F., World Population and Production (A Review) 413
**Johnson,** Hildegard Binder, Geography from the Grocery Shelf, 341

**King,** Voris, A Geographic Gadgeteer (A Review) 268
**Kish,** George, Oil in the Soviet Union—History, Geography, Problems (A Review) 271
**Krause,** Annemarie, Four filmstrips: Southwestern Canada and the Wheat Region, Lands of Few People, Region of Most People and Southeastern Canada, Alaska—The Land and Its People (A Review) 181-2

**Land** Use, Some Basic Problems Concerning Inventory of World, Charles Y. Hu, 123
**Land** Use Maps: Their Role in the Social Studies Program, Urban, Bertrand P. Boucher, 106
**Lehnerts,** Edward M., 1873-1953, Anastasia Van Burkalow, 225
**Lemert,** Ben F., The United States and Mexico (A Review) 184
**Lloyd,** Trevor, Where the High Winds Blow (A Review) 266
**Lobeck,** Elmire, Haiti: A Brief Survey of its Past and Present Agricultural Problems, 277

**McDonald,** Walter H., Hammond's Global-Geography Atlas (A Review) 318
**McGraw,** Eloise Jarvis, Mara: Daughter of the Nile, Earl B. Shaw (A Review) 46
**Mackay,** J. Ross, Notes on the Planetary-Wind Diagram, 154
**Map,** The Child Looks Upon the, Mamie L. Anderzhon, 238
**Map,** Grade Six Makes a World, Catherine Hauer, 63
**Map,** High School Geography Class Constructs Relief and Political Wall, Thomas Feeney, 242
**Map** Needs for a Modern World, Parnell W. Picklesimer, 301
**Mapping,** Lesson I, Three Lessons in, M. Melvina Svec, 60
**Mapping,** Lesson II, Three Lessons in, Profiles from Maps, M. Melvina Svec, 104
**Mapping,** Lesson III, Three Lessons in, M. Melvina Svec, 199
**Maps** Of Interest to Teachers of Geography: III, Recent, Marie Cleckner Goodman, 384
**Meyer,** Alfred H. and John Strietelmeier, An Attempt at Making Geographers Out of Students, 211
**Miller,** E. Willard, The Limits of the Earth (A Review) 367-8
———, Recent Trends in the Pattern of European Manufacturing, 185
**Montgomery,** Rutherford G., White Mountaineer, Marion I. Wright (A Review) 183
**Mookerjee,** Sitanshu, India and Her Neighbors, Countries Around Indian Ocean (Maps) (A Review) 269-70
**Moulton,** Benjamin, The Golden Geography (A Review) 47
**Myres,** John L., Geographical History in Greek Lands, Stanley D. Dodge (A Review) 45

**Namowitz,** S. N. and D. B. Stone, Earth Science, The World We Live In, M. Melvina Svec (A Review) 267
**National** Council at Work, 88, 139, 363, 411

**O'Brien,** Elinor, The Land and People of Ireland, Neville V. Scarfe (A Review) 366-7
**Oliver,** Mildred B., Recent Changes in the Concept of the Broadscale Wind and Pressure Patterns of the Tropics, 351
**Ordway,** Samuel H., Resources and the American Dream, Guy-Harold Smith (A Review) 269
**Osborn,** Fairfield, The Limits of the Earth, E. Willard Miller (A Review) 367-8

**Pace,** Ethel, Some Tests for First Grade Geography, 11
**Pacific** Northwest, Teaching Unit: Lumbering In, Kenneth J. Williams, 257
**Parks** and Monuments, Vandalism and Abuse in, Susan D. Smith, 291

**Peattie,** Roderick, The Ruts and Routes of Europe: A Study in Historical Geography, 336
**Persson,** Hildegard, An Approach to Developing Global Patterns, 298
**Philippine** Prospect, Alden Cutshall, 214
**Philip's** Pictorial Atlas of the World, Mamie L. Anderzhon (A Review) 319
**Phillips,** Mary Viola, Educators Guide to Free Films (A Review) 43
———, Organizing a Geography Club in the Secondary School, 144
———, Tico Bravo, Shark Hunter (A Review) 366
———, Will Clark—Boy in Buckskins (A Review) 317
**Picklesimer,** Parnell W., Map Needs for a Modern World, 301
**Planetary**-Wind Diagram, Notes on the, J. Ross Mackay, 154
**Platt,** Robert S., Brazilian Capitals and Frontiers: Part I, 369
**Population** Trends in Mississippi, Some, Herbert Vent, 141
**Porochniak,** Paul, Living and Working Together in the United States and in the World (A Review) 368
**Pounds,** Norman J. G., Europe and the Mediterranean, Guido G. Weigend (A Review) 90-1
**Powers,** William E., The Earth and Its Mysteries (A Review) 92
**Prizes,** Winners of Journal of Geography, 365
**Proctor,** George L., The Young Traveler in Sweden, Gunnar Alexandersson (Visiting Professor) (A Review) 183
**Profiles** From Maps, Three Lessons in Mapping, Lesson II, M. Melvina Svec, 104

**Radio** Program, A Dramatized, J. Bernard Ray, 307
**Ray,** J. Bernard, A Dramatized Radio Program, 307
———, A Seventh Grade Approach to the Study of a Geography of Germany, 17
**Regional** Atlas, ed. Edward Espenshade, George A. Rheumer (A Review) 92
**Reid,** Alexander, The Young Traveler in France, N. V. Scarfe (A Review) 90
**Reid,** Seerley and Anita Carpenter, A Directory of 2660 16mm Film Libraries, Editor (A Review) 271
**Reith,** John W., Problems in Preparing the Elementary Teacher in Geography with Reference to California, 157
**Renner,** 3rd, George T., The Halfmoon Bay Littoral of Central California, 164
**Report** of the Thirty-Ninth Meeting of the National Council of Geography Teachers, 178
**Report** of the Fortieth Meeting of the National Council of Geography Teachers, Ina C. Robertson, 409
**Resource**-Use Education, Geography and, Sigismond deR.Diettrich, 131
**Rheumer,** George A., Regional Atlas (A Review) 92
**Robertson,** Ina C., Homelands of the World (A Review) 182
———, Report of the Fortieth Meeting of the National Council of Geography Teachers, 409
**Robinson,** J. Lewis, Nuki (A Review) 46

**Sahli,** John R., Student Interest Appeals in Early Geography Textbooks, 20
**Sandtable?,** Why Not Use a, Thomas Frank Barton, 64
**Scarfe,** Neville V., James Fairgrieve, 1870-1953, 84
———, The Land and People of Ireland (A Review) 366-7
———, The Young Traveler in France (A Review) 90
**Schlechty,** Pauline, Earthworms (A Review) 266
———, Make Way for Water (A Review) 317-18
**Schmitt,** Irene M. and Frank D. Whalen, Living and Working Together in the United States and in the World, Paul Porochniak (A Review) 368
**Schultz,** Gwen, Visual Education by Mail, 248
**Seasons:** A Case Study, TV's Explanation of, Robert V. Esmond, 376
**Secondary** School, Organizing a Geography Club in the, Mary Viola Phillips, 144
**Semple:** Her Geographical Approach to American History, Ellen Churchill, Lawrence Gelfand, 30
**Seventh** Grade Approach to the Study of a Geography of Germany, A. J. Bernard Ray, 17
**Shaw,** Earl B., Land Reform in Egypt, 229
———, Mara: Daughter of the Nile (A Review) 46
**Shipton,** Eric, The Mount Everest Reconnaissance Expedition, James G. Sims (A Review) 93
**Sims,** James G., The Mount Everest Reconnaissance Expedition (A Review) 93
**Sletten,** Cora P. Receives the Distinguished Service Award in Geographic Education, 226
**Slide** Collection for Geography Teachers, A Colored, John H. Thompson, 117
**Smith,** Guy-Harold, Resources and the American Dream (A Review) 269
**Smith,** J. Russell, How to Understand a Nation, 71
**Smith,** Susan D., Vandalism and Abuse in National Parks and Monuments, 291

**Soil** Profile, A Condensed, Lyda Belthuis, 362
**Soils,** Your Grade Experiments with, M. Melvina Svec, 381
**Stanley,** Raymond W., A Community Approach to Political Geography, 112
**Still** Pictures in Classroom Teaching, A Selected Bibliography of Articles Dealing with the Use of, 227
**Stone,** D. B. and S. N. Namowitz, Earth Science, The World We Live In, M. Melvina Svec (A Review) 267
**Strietelmeier,** John and Alfred H. Meyer, An Attempt at Making Geographers out of Students, 211
**Svec,** M. Melvina, Chart on Geographical Terms, Chart on Mathematical Geography Terms and Geographical Terms (A Review) 44-5
———, Earth Science, The World We Live In (A Review) 267
———, Three Lessions in Mapping, Lesson I, 60
———, Three Lessons in Mapping, Lesson II, Profiles from Maps, 104
———, Three Lessons in Mapping, Lesson III, 199
———, Your Grade Experiments with Soils, 381

**Taylor,** Griffith, Geography in the Twenieth Century, Editor (A Review) 270
**Teaching** of Geography, The Application of Educational Theory to the, Edward Coleson, 346
**Televising** Geography: Report No. II, 402
**Tests** for First Grade Geography, Some, Ethel Pace, 11
**Textbooks,** Student Interest Appeals in Early Geography, John R. Sahli, 20
**Thomas,** Frank J., Some Notes on Agriculture in Costa Rica, 97
**Thompson,** John H., A Colored Slide Collection for Geography Teachers, 117
**Thomson,** William E., Construction of a Simple Cyclone Storm Model, 208
**Thurston,** Ernest and Grace C. Hankins, Homelands of the World, Ina C. Robertson (A Review) 182
**Tropics,** Recent Changes in the Concept of the Broadscale Wind and Pressure Patterns of the, Mildred B. Oliver, 351
**Tucker,** Wilton, Three Rivers South: A Story of Young Abe Lincoln (A Review) 318-19
**Tyrrell,** G. W., The Earth and Its Mysteries, William E. Powers (A Review) 92

**Ullman,** Edward L., The Bonanza Trail (A Review) 93

**Van** Burkalow, Anastasia, Edward M Lehnerts, 1873-1953, 225
**Van** Valkenburg, Samuel, Aqaba, 222
**Vent,** Herbert, Some Population Trends in Mississippi, 141
**Visual** Education by Mail, Gwen Schultz, 248

**Walker,** F., Geography From the Air, Van H. English (A Review) 270-1
**Ward,** Mary L., Why We Live Where We Live (A Review) 89
**Warrington,** Alexander J., Economic Geography in the Middle South, 251
**Weigert,** Hans, Geography of Europe (A Review) 91
**Werner,** Elsa Jane, The Golden Geography, Benjamin Moulton (A Review) 47
**Whalen,** Frank D. and Irene M. Schmitt, Living and Working Together in the United States and in the World, Paul Porochniak (A Review) 368
**Whittlesey,** Derwent, Landscape (A magazine review) 228
**Wilkie,** Katherine E., Will Clark—Boy in Buckskins, Mary Viola Phillips (A Review) 317
**Williams,** Kenneth J., Teaching Unit: Lumbering in Pacific Northwest, 257
**Wolle,** Muriel Sibell, The Bonanza Trail, Edward L. Ullman (A Review) 93
**World** Guide, C. F. Cole (A Review) 268-9
**Woytinsky,** E. S. and W. S. Woytinsky, World Population and Production, George F. Jenks (A Review) 413
**Woytinsky,** W. S. and E. S. Woytinsky, World Population and Production, George F. Jenks (A Review) 413
**Wright,** Marion I., White Mountaineer (A Review) 183

**Yoder,** Julian C., Elementary Guide to Free Curriculum Materials (A Review) 94

# EDITORIAL NOTES AND NEWS

*Recently Elected Fellows of NCGT*

Any member in good standing for five consecutive years is designated as a Fellow of the National Council of Geography Teachers.

The following people have become fellows since May, 1954:

*May, 1954*

William E. Dooley
Bradford K. Macgaw
Faye C. Griffis
Walter H. McDonald
Kenneth F. Haydon
George H. Rheumer

*September, 1954*

Neville V. Scarfe
Martha Schaeffer

*October, 1954*

Mrs. Asenath Burns

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The Society of Woman Geographers, a national organization of professional women active in geography and allied fields, believes that a greater knowledge of geography is of vital importance in America today and that the developing interdependence of all parts of the world gives to the geographer a special role. Trained geographers are needed in teaching, in government service, in research and in business. In order to encourage the young women of this country to train in this important field, the Society, in cooperation with Columbia University, is offering a Fellowship of $1200 to a young woman to do graduate work in Geography at Columbia University for the academic year 1955-1956. This is the second such Fellowship the Society has sponsored, the first having been awarded for the academic year 1953-1954.

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"Why the Weather?" is being given as a telecourse by Dr. Henry J. Warman, Associate Professor of Geography at Clark University. If copies are still available you may secure a brochure by writing to the Evening College of Clark University, 950 Main Street, Worcester, Massachusetts.

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Do you agree that THE JOURNAL OF GEOGRAPHY is an indispensable magazine for teachers and administrators interested in improving the teaching of geography?

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Social studies teachers should not confuse the use of a map in a history class with teaching geography. Many people, both teachers and non-teachers who use maps, do not teach or use geographic information.

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Do you agree that Geography is a study of the description and interpretation of cultural environments? If so, can you teach geography in a social studies program and not use information about 1. weather and climate, 2. landforms, 3. water bodies, 4. soil, 5. rocks and minerals, 6. native plant life, 7. native animal life and/or 8. spatial relations?

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Have you read a copy of *Social Education* and/or *The Social Studies* this year? *Social Education* is the official journal of the National Council for the Social Studies, 1201 Sixteenth Street, N.W., Washington 6, D.C. *The Social Studies* may be secured from The Social Studies, 809-811 North 19th Street, Philadelphia 30, Pennsylvania.

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Should first grade children be permitted to look at and manipulate a globe? If so, what type should be provided?

# EDITORIAL NOTES AND NEWS

At what age or grade level should children be given an opportunity to examine simple aerial photographs?

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Did you read, "Classroom Work on the Daily Weather Report" by H. C. Prudden in the July, 1954 issue of *Geography?* How extensively is the United States Daily Weather Map used as a tool in the schools in our country?

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Apparently filmstrip producers are swinging to color. The catalog of The Stanley Bowmar Company lists the filmstrips of 18 different producers. An examination of the new supplement (6-A) shows that with the exception of one big producer color is the vogue. This supplement is free for the asking. Ask for 6-A and schools who also ask for 6-RA will be up-to-date on educational records. Address requests to The Stanley Bowmar Company, Valhalla, New York.

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A summer's Study tour of Africa is announced by the San Francisco State College in connection with their 1955 Summer Session. Under the direction of Dr. Alfred G. Fisk, Professor of Philosophy, the group will leave New York for an all-air trip on June 28 with return scheduled for September 1.

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If you are rushed for time and yet would like to have an analysis of the geography textbooks published for use in the United States, you may wish to save time by writing to Dr. Bertrand L. Willis, Head, Department of Geography, University of North Dakota, Grand Forks, for a mimeographed bulletin entitled *An Analysis of Geographic Textbooks for High School Use*. This bulletin will be sent to you for 25 cents.

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The Oklahoma Council of Geography Teachers met at 2:00 P.M. October 29, 1954, in Oklahoma City. Over 200 geography teachers from over the state heard an address, "Four Big Ideas We Teach," by Dr. Norman Carls, Professor of Geography, The American University, Washington, D.C.

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The Iowa Council of Geography Teachers held an after luncheon meeting November 5 in Des Moines, Iowa. Dr. Thomas F. Barton talked to them about "Possible Activities for the Iowa Council." Later in the afternoon he spoke before the Social Studies Section of the Iowa Education Association on "Improving Geographic Instruction."

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Dr. Gordon M. Harrell, Professor of Geography, East Central State College, Ada, Oklahoma, has accepted the appointment of NCGT State Coordinator to replace Dr. Robert Fite, Oklahoma A. and M. College, Stillwater.

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There are still some geography teachers in England who want to exchange their official publication, *Geography*, for the JOURNAL OF GEOGRAPHY. Any geography teacher on this continent who is interested in exchanging publications with a British geographer is requested to write to Dr. Henry J. Warman, Graduate School of Geography, Clark University, Worcester, Massachusetts.

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Do you have a copy of *Designing Elementary Classrooms*, Special Publication No. 1, U. S. Department of Health, Education and Welfare? In Appendix A, Recapitulation of Equipment and Supplies That Require Free Floor Area and/or Fixed Storage, appear 129 items but a sandtable is omitted. Aquariums, terrariums, televisions and sandpaper are included but not a sandtable. Clay, rake, shovel, seeds, fertilizers, bulbs, soils and flowers, but no sand or sandtable.